

The invention relates to a pickup and holding circuit for self-holding relays of a circuit, in particular of a centrally controlled telephone switching system, in which circuit many relays are simultaneously in the holding state, while operationally in each case only a single relay is caused to effect pickup, the pickup circuits of these relays being fed by a common first voltage source and a plurality of relays being located in a holding circuit fed by a common second voltage source, each relay being able to be connected with a single winding, which, on the one hand, can be connected by means of a stimulus contact into the pickup circuit fed by the first voltage source and, on the other hand, can be connected by means of a self-holding contact into the holding circuit fed by the second voltage source, and the lines leading from the winding to the two voltage sources being decoupled by diodes.

It is known, for circuits of this type, to provide double voltage sources with identical partial voltage sources for feeding the pickup and holding circuits. One example of this is the subject matter of German patent specification No. 1047851, in which the circuit specified is used in a circuit switching network.

The identical dimensioning of the partial voltage sources is justified when the power required on average is the same both for the pickup circuits and for the holding circuits. The case arises, however, especially in centrally controlled telephone switching devices, that many relays have to be held simultaneously, but that, in "one at a time" operation, in each case only a single relay can be caused to effect pickup. In this case, the provision of voltage sources of identical magnitude for pickup and for holding means an incommensurate outlay. This outlay is reduced according to the invention by virtue of the fact that the power

which can be output from the voltage source feeding the pickup circuit is limited to the supply of the energy required for the excitation of the relay.

- 5 The invention can advantageously be used in those telephone switching devices which, in addition to the operating voltage source, are provided with an auxiliary voltage source for electronic components. In this case, the auxiliary voltage source, with which
10 capacitors are preferably connected in parallel, can also form the voltage source that is present for feeding the pickup circuits of the relays.

15 An exemplary embodiment of the invention is illustrated diagrammatically in the drawing, all the switching elements relating to the special use of the circuit according to the invention being omitted.

- The relay which, by means of the circuit according to
20 the invention, is to be caused to effect pickup and is then to be provided with a holding current is designated by --R--. The pickup is initiated by closing an externally actuated contact --a--, which may also be an electronic switch. The pickup circuit is fed from an
25 auxiliary voltage source HS and proceeds from the positive pole (+) thereof via the contact --a-- to the relay --R-- and via a first diode --D1-- back to the negative pole (-) of the auxiliary voltage source HS. After the pickup time has elapsed, the relay --R--
30 closes, with its self-holding contact --r--, a self-holding circuit fed by its operating voltage source BS. Said circuit proceeds from the positive pole (+) of the operating voltage source BS via a second diode --D2-- to the relay --r-- and furthermore via the closed self-
35 holding contact --r-- thereof back to the negative pole (-) of the operating voltage source BS.

The voltage source HS is provided jointly for a

plurality of relays, of which in each case only one at a time is caused to effect pickup. In this case the power which can be output from the auxiliary voltage source feeding the pickup circuit is limited to the supply of the energy required for the excitation of the relay

5 --R--.

The connections between the voltage sources BS, HS, on the one hand, and the other circuit elements are represented in part by broken lines in the drawing, in order to indicate that the circuit according to the invention can be used within circuit arrangements of arbitrary configuration.

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15 In the case where the auxiliary voltage source HS has a very high internal resistance which could not provide the required pickup current at the given voltage, a capacitor --C-- connected in parallel with the

20 auxiliary voltage source offers a charge reserve for bringing about a current that suffices for the pickup.

PATENT CLAIMS:

1. A pickup and holding circuit for self-holding
5 relays of a circuit, in particular of a centrally
controlled telephone switching system, in which circuit
many relays are simultaneously in the holding state,
while operationally in each case only a single relay is
caused to effect pickup, the pickup circuits of these
10 relays being fed by a common first voltage source and a
plurality of relays being located in a holding circuit
fed by a common second voltage source, each relay being
able to be connected with a single winding, which, on
the one hand, can be connected by means of a stimulus
15 contact into the pickup circuit fed by the first
voltage source and, on the other hand, can be connected
by means of a self-holding contact into the holding
circuit fed by the second voltage source, and the lines
leading from the winding to the two voltage sources
20 being decoupled by diodes, characterized in that the
power which can be output from the voltage source (HS)
feeding the pickup circuit is limited to the supply of
the energy required for the excitation of the relay
(R).
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2. The pickup and holding circuit as claimed in claim
1, for centrally controlled telephone switching systems
which, in addition to the operating voltage source, are
provided with an auxiliary voltage source for
30 electronic components, characterized in that said
auxiliary voltage source (HS), with which capacitors
(C) are preferably connected in parallel, also forms
the voltage source that is present for feeding the
pickup circuits of the relays (R).

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Accompanied by 1 sheet of drawings)

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